

Effects of prenatal heat stress on the emotional reactivity and behavioral reactions of female dairy goat kids
Wellington Coloma-García, Nabil Mehaba, Ahmed A.K. Salama, Xavier Such & Gerardo Caja
Group of Research in Ruminants (G2R). Department of Animal and Food Sciences, Universitat Autònoma de Barcelona.
Bellaterra. Spain wncg_100583@hotmail.com

Stress during pregnancy can impair the normal development of the offspring. The aim of this study was to assess the effects of maternal heat-stress during the prenatal period on emotional reactivity of goat offspring. For this purpose, a total of 30 Murciano-Granadina dairy goats (41.8 ± 5.70 kg BW) were divided in 2 experimental groups based on environmental temperatures: Thermal-neutral (TN; 15 to 20°C, n = 15) and heat stress (HS; 30 to 37°C, n = 15). HR ranged between 35 and 40%. Goats were maintained to TN or HS conditions from d -15 to d 45 with regard to mating. Female kids born from TN (n = 16) and HS (n = 10) goats were weighed at birth and submitted to reactivity tests (NAT, novel arena test; NOT, novel object test) at d 30 ± 15 and 150 ± 30 of age, using a 4x4 m² arena with recording cameras. Variables measured were distance traveled and number of squares entered and jumps and sniffs done. NAT and NOT data were analyzed as repeated measures by using a simple linear model under a Poisson or Negative Binomial distribution. Compared to TN, pregnancy length of HS goats shortened 3 d ($P < 0.01$) and, consequently, HS kids showed lower birth (-7%; $P < 0.12$) and litter weight (-13%; $P < 0.061$). The 30-d old HS kids displayed a lower number of sniffs ($P < 0.01$) and vocalizations ($P < 0.10$) during NAT, whereas only tended to show a lower number of sniffs ($P < 0.10$) during NOT. Results of the same tests performed in 150-d old kids did not show differences between groups ($P = 0.3$ to 0.9). In conclusion, heat stress during the early pregnancy reduced the length of pregnancy with effects on the weight of the offspring. In addition, behavioral tests suggested an altered emotional reactivity during the postnatal life of the goat kids after the heat stress suffered *in utero*.

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